

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion is respectfully requested.

Claims 1 and 3 have been rejected under 35 U.S.C. § 102 as being anticipated by Fantone et al.; and Claim 2 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Fantone et al. in view of Klotzsch et al. New Claims 4 and 5 have been added and thus, Claims 1-5 remain active.

Considering first then the rejection of Claims 1 and 3 under 35 U.S.C. § 102 as being anticipated by Fantone et al., Applicants respectfully submit that a close review of Fantone et al. indicates that such does not teach or disclose all the limitations of Claims 1 and 3 as now claimed. More particularly, upon the present invention according to any of Claims 1-3, being compared with the prior art disclosed in Fantone et al. and Klotzsch et al., Applicants submit that at least the claimed limitations of “obtaining edge information of the laser line from the image of the laser line to calculate a particle diameter of foam in the foam layer based on the edge information” (emphasis added) as recited in independent Claim 1 or 3 is neither disclosed nor suggested in Fantone et al. or Klotzsch et al.

More particularly, “the thickness of the foam layer be measured” is discussed on lines 44-45 in column 7 of Fantone et al., the phrase “With foam, for example, the variation (of the signal) is believed to be a function of the diameter of foam bubbles” on lines 56-58 in column 7 of Fantone et al., the phrase “the acquired scan data may be analyzed to determine ... foam presence ...” which appears on lines 3-8 in column 10 of reference 1, the phrase “The process also has the ability to determine ... foam thickness, and foam density.” which appears on lines 24-26 in column 11 of reference 1, and the phrase “The resulting digital image shows the cap and foam thickness/fill height as reductions of the signal level” presented on lines 16-18 in column 12 of Fantone et al. have been carefully reviewed by Applicant’s. However

none of these phrases teach or disclose the specific limitation “to calculate a particle diameter of foam” in the present invention according to independent Claim 1 or 3.

In addition, Applicants note the technique described on line 14 in column 12 - line 28 in column 13 and shown in Figs. 6-9 of Fantone et al. is such that “The resulting digital image shows the cap and foam thickness/fill height as reductions of the signal level”, as described on lines 16-18 in column 12 of Fantone et al., and does not correspond to the feature claimed of “obtaining edge information of the laser line” or “to calculate a particle diameter of foam in the foam layer based on the edge information” in the present invention according to independent Claim 1 or 3.

Thus, Applicants submit that Fantone et al. neither teaches or discloses the claimed element of “obtaining edge information of the laser line from the image of the laser line to calculate a particle diameter of foam in the foam layer based on the edge information” recited in independent Claim 1 or 3.

Considering next then the rejection of Claim 2 under 35 U.S.C. § 103 as being unpatentable over Fantone et al. in view of Klotzsch et al., Applicants note that Klotzsch et al. claims “a threshold level” in Claim 7 of such patent and corresponding discusses this limitation in line 64 of column 37. However, this threshold level does not relate to Applicants’ claimed “edge information of the laser line” limitation as recited in independent Claims 1 or 3 in the present application and instead relates only to “a ratio of the level of high frequency spatial variations in intensity in the image with the level of low frequency spatial variations in intensity in the image” as claimed in Claim 7 of Klotzsch et al.

Furthermore, as mentioned in Applicants’ comments in the response to the first Official Action, “a threshold level” claimed in Claim 7 and discussed in line 64 in column 17 of Klotzsch et al. does not relate to “edge information of the laser line” as recited in independent Claim 1 or 3 of the subject application at all but instead relates to “a ratio of the

level of high frequency spatial variations in intensity in the image with the level of low frequency spatial variations in intensity in the image” (see Claim 7 of Klotzsch et al.).

In addition, the “threshold amount” discussed in line 2 in column 6 of Klotzsch et al., the “threshold (level)” discussed in line 41 in column 7, line 36 in column 8 of Klotzsch et al., and the “threshold” discussed at line 54 in column 12 through line 6 in column 13 and at line 8 in column 19 of Klotzsch et al. do not correspond to “edge information of the laser line” which makes it possible “to calculate a particle diameter of foam in the foam layer” as recited in independent Claim 1 or 3 of the subject application but instead are only thresholds associated with radiant energy (a signal) or a spectrum detected on a photo(detector) and set for simply determining whether foam or turbid contaminant is present or not.

Thus, Klotzsch et al. neither teaches a claim element of “obtaining (or obtains) edge information of the laser line from the image of the laser line to calculate a particle diameter of foam in the foam layer based on the edge information” recited in independent Claim 1 or 3.

In view of the foregoing, Applicants believe that the present invention according to any of Claims 1 to 3 should not be anticipated by the prior art disclosed in Fantone et al. and the present invention according to Claim 2 depending from independent Claim 1 should not be obvious over the prior arts disclosed in Fantone et al. and Klotzsch et al.

Applicants further note that Claims 4 and 5 have been added which depend from Claims 1 and 3, respectively, and which claim that the edge information comprises information which determines concavity and convexity of foam particles on edge portions of the laser line so as to determine the particle diameter of the foam particles and the number of foam particles. Support for these limitations can be found at page 7, line 17 through page 8, line 18, for example. Insofar as neither Fantone et al. nor Klotzsch et al. nor any of the remaining references of record teach or disclose the limitations of Claims 4 and 5 and based

upon the dependency of such claims from Claims 1 and 3, respectively, it is submitted that Claims 4 and 5 also merit indication of allowability.

In view of the foregoing, an early and favorable Office Action is believed to be in order and the same is hereby respectfully requested.

Also submitted herewith is a Supplemental Application Data Sheet to properly reflect the correct title of the present application.

Respectfully submitted,

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